




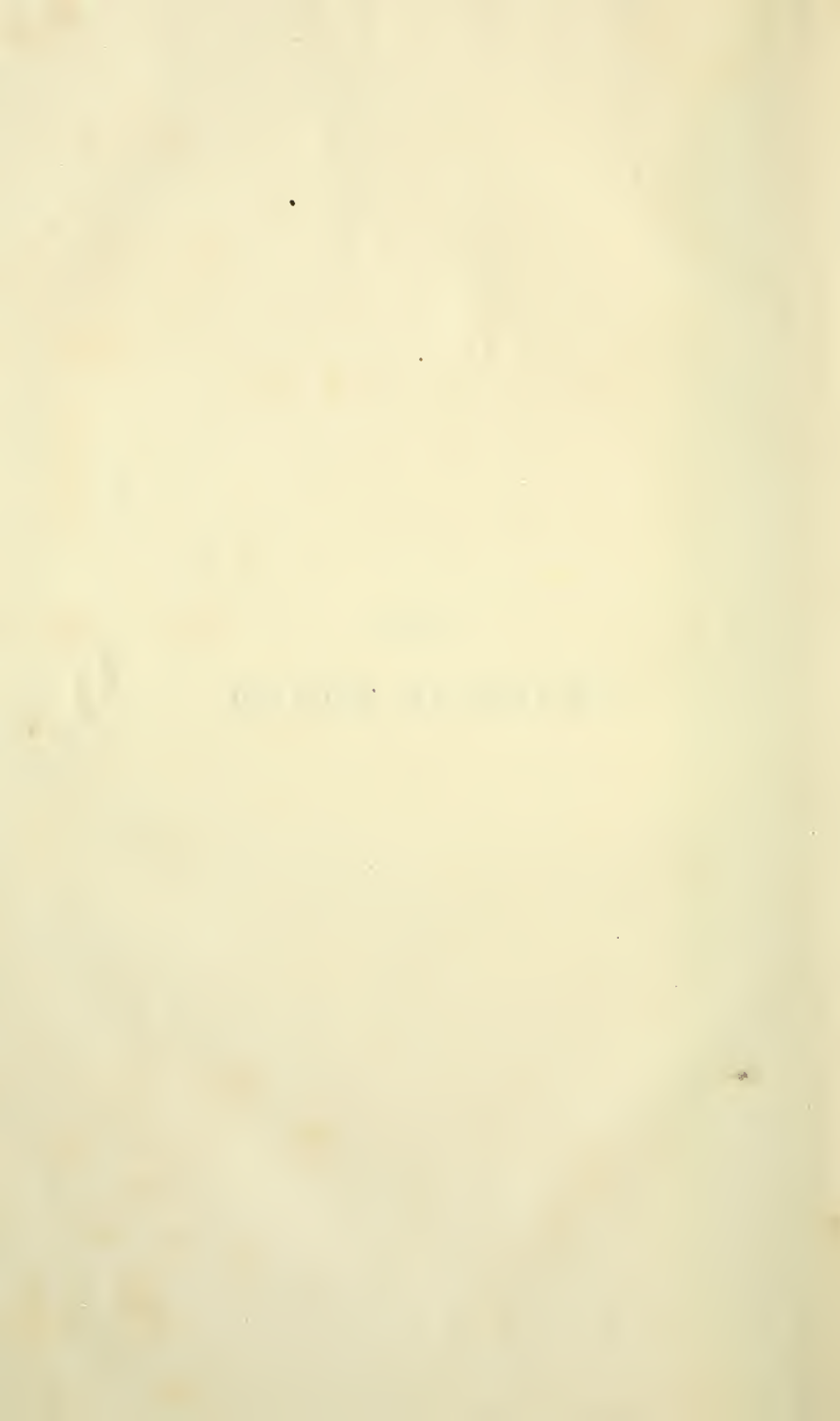
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ON THE
SENSE OF TOUCH.



ON THE
SENSE OF TOUCH,
OR
PHYSIOLOGY AND PHILOSOPHY
OPPOSED TO
MATERIALISM AND ATHEISM.

BEING AN
INTRODUCTORY DISCOURSE,
DELIVERED ON THE 6TH DAY OF NOVEMBER, 1837, ON THE
OPENING OF THE NEW COLLEGE, IN CROSBY STREET.

BY
J. AUGUSTINE SMITH, M. D.
MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON, PRESIDENT OF THE COL-
LEGE OF PHYSICIANS AND SURGEONS IN THE UNIVERSITY OF THE STATE OF
NEW YORK, AND PROFESSOR OF PHYSIOLOGY IN THAT INSTITUTION.

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TO THE

REV. REUEL KEITH, D.D.

PROFESSOR OF SYSTEMATIC THEOLOGY, &C., IN THE PROTESTANT EPISCOPAL
SEMINARY IN THE DIOCESS OF VIRGINIA.

DEAR SIR :

You have on more than one occasion expressed a wish to see the argument which I informed you I had devised against the Atheists. It is accordingly now submitted to your consideration. But what you and others, who appreciate abstract discussions as they merit, will think of my logic, I can not anticipate. To me it appears novel, and I should add conclusive, had not such eminent philosophers failed in the attempt, which I have essayed. Yet whether demonstrative or not, an original train of thought *tending* to establish the existence of the Deity, is not without its value. The reasoning therefore which I have employed in support of the sublimest of all truths, if less forcible than parental fondness would represent it, may, nevertheless, be esteemed a contribution on my part from Science to Religion.

As a prelude to the remarks in opposition to the Atheists, and for reasons stated in the Lecture, I have thought it well to pass Materialism through the metaphysical crucible. Of my analysis and its results I need not speak, since you are an equally competent and more impartial judge, than yours,

With continued

Friendship and esteem,

J. AUG. SMITH.

NEW YORK,
7th Nov. 1837.

ON THE

SENSE OF TOUCH.

GENTLEMEN,

I AM happy to announce that through the fostering care of the Regents, and the judicious kindness of the Trustees, our College opens for the ensuing Session under the most favourable auspices. We have exchanged our former confined and inconvenient apartments, for the spacious and most commodious building in which we are now convened. But what is of far greater consequence, we have no small accession of new talent,* and there has consequently been infused into the Faculty an augmented power of imparting knowledge. Under these fortunate circumstances it becomes my pleasing duty as presiding officer of the institution, to deliver an address in some measure commensurate with the importance of the occasion. Accordingly I have selected topics of the deepest interest to responsible beings, which a physiologist, who is also a layman, is permitted to treat. For although the Sense of Touch is my theme, yet in discussing it, I hope to prove that man differs some-

* Dr. Alban G. Smith and Dr. Amariah Brigham have been appointed to chairs in the College during the vacation; the former to teach Surgery, the latter Special Anatomy.

what from the dust on which he treads, and that the vast fabric of the universe is the work of Omnipotence. But to establish these truths the ordinary limits* of a lecture will not suffice. A tax therefore will have to be imposed, though most unwillingly, upon your patience; yet those whose good nature may induce them to bear with some excess, will, I flatter myself, be rewarded by an occasional suggestion, both novel and gratifying. Where my ideas are more trite, the dignity of my subject must stand for their apology.

Of the five inlets to knowledge not one is more widely disseminated than the Sense of Touch. Belonging indeed, to the minutest microscopic insects as it is seen to do, (*a*) it is probably co-extensive with animal life. (*b*) But as the tactile power is most exquisite in the fifth, and as that is also the gustatory nerve, to feel and to taste, are, perhaps in all creatures, associate faculties. In man a capacity to perceive the tangible qualities of matter is diffused in some degree over his whole body, but it resides more particularly in the tip of the tongue, and the ends of the fingers, and toes. In the first and the last it is seldom called into use, except in cases of deformity or disease. Where the hands have been wanting, the toes have to a certain extent become substitutes for the fingers; and two cases† have been reported to me, on authority not to be doubted, in which blind persons were enabled to thread needles by the aid of their tongues.‡ But it is the papillæ at the ends of the fingers

* Hence, the number and the length of the notes, into which every thing has been thrown that could be dispensed with in the text.

† This feat, however, requires I suspect many efforts before it can be accomplished; at any rate I have attempted it in vain.

‡ One of these is the celebrated Julia Brace of Hartford, who is deaf, dumb, and blind; the other was a member of one of the first families in our country.

(*a*), (*b*), See notes at the end.

which constitute for ordinary purposes the organ of feeling; and it is to this power in these members, combined with their number,* length, and flexibility, that man is in a great degree indebted for his superiority over animals so far exceeding him in size and strength. He does not ride the horse however, as Helvetius thought, because he has fingers and toes, while the extremities of that animal terminate in hoofs—that result being due to mental power, not physical organization. The inhabitants of Caffre-land and the savages of New Holland do not differ in anatomical structure, as far as their upper limbs are concerned, from us. Whence then their inferiority? The difference lies undoubtedly in the intellectual capacities of these several races, and not in their fingers. That the hand is admirably adapted to the purposes for which it is designed, cannot be disputed; but that it furnishes us with *all* the knowledge which those philosophers, termed Materialists, ascribe to it, I can by no means admit. And this point I propose to examine at large. First, on account of its intrinsic importance, and secondly, because we derive a large portion of our medical literature from France, and much of it, I allude particularly to the school, first of Cabanis, and then of Broussais, (c) is deeply tinctured with Materialism. Nearly allied to Atheism, for I imagine the disciples of Priestly† are but few, it requires to be more thoroughly exposed, because, being less shocking to our feelings, its diffusion is

* It is mentioned by Meckel as a curious fact in comparative anatomy, that there is no creature in existence, which has an extremity terminating in more than five sub-divisions. This organization undoubtedly gives us incalculable advantages, and Swift was sadly puzzled to put his favourite huyhuhums upon a par with us in this particular. “They (the huyhuhums) use the hollow part, between the pastern and the hoof of their feet, as we do our hands. I have seen a white mare of our family thread a needle with that joint”—no easy task one would think.—VIDE GULLIVER’S TRAVELS.

† Priestly was a Materialist, but no Atheist.

(c) See note at the end.

wider, and consequent mischief greater. But to perfect my discourse both errors must be embraced—I hope refuted.

In the attempt, however, to expose and destroy these unfortunate opinions, I shall have to employ an *arm* against which my opponents will protest most loudly. “None of your metaphysics for us,” they will exclaim, “we are content with common sense.” They may be so, but then they must be also content with common ignorance. For common sense can no more develop the nature of the human mind, than common arithmetic can calculate the motions of the planets. I must therefore insist upon using the only mode of reasoning, which, in such discussions, will conduct us to the truth. And to this there is less objection, because I shall have occasion for no lengthened series of syllogisms where my remarks are affirmative. When this is their character, they will consist of little more than an accurate detail of *all* the facts involved in the inquiry. As far as the Materialists are concerned, what logic I shall require, will be chiefly expended in the examination, I hope it will be found the demolition, of their solitary argument. I say their solitary argument, because their views so far as I can understand them, may be summed up concisely, but with perfect fairness as follows: “We feel matter, therefore we know it exists. Produce now, that is, make manifest to our senses what you call mind, or admit there is no distinct existence to which that name can be applied. But such evidence you have not, and must consequently acknowledge that matter under one modification is cognizant of matter in another state, or more specifically that matter in the shape of a man, recognises matter in the form of a stone.”

The reply demanded by this reasoning being confessedly impracticable, it is put forth as unanswerable. To me, however, the insuperableness of this curious specimen of the

dialectic art is by no means its most remarkable feature. That consists in the strange attempt to deduce *the character of the power acting from the certainty of the substance acted upon*. Accordingly, the question whether we are simple or compound, is held to be triumphantly determined by the averment, that *extraneous* bodies which affect our faculties have a real existence !

But secondly, as an inquiry into our constitution must be conducted by us, it follows that in carrying on such an investigation, we are at one and the same time agent, instrument, and subject. Now under such unusual and perplexing circumstances, we need, and have a right to require every aid, and particularly every preparatory elucidation, which can by any possibility be afforded us. Yet our friends the Materialists seem to think nothing of the kind necessary. At any rate they have preferred a plan far more summary, and to themselves far more convenient. For, eschewing all troublesome preliminaries, they plunge at once *in medias res* ; take man in the gross with all his qualities, mental and corporeal, with all his vast capacities and boundless aspirations, argue from him to a stone, and back from the stone to him, and thus, with matchless brevity and beauty, identify the mysterious and marvellous Being, who feels and knows, with the insensate and worthless rock, which by the said Being is felt and known !

I believe, as friend Sancho would say, this argument will not hold water. Yet it must be subjected to further analysis, because though ill constructed and inconclusive, it may nevertheless, for any thing that has hitherto appeared, be sound in its main positions. These, therefore, I shall proceed to attack, fully persuaded that the premises of our adversaries, as understood and stated by them, are as unfounded in fact, as their conclusion is unwarranted by logic.

But before I proceed it may be as well to state in plain terms, the problem to be solved. It is this: Does more than a single, solitary element enter into the composition of man?

In prosecuting the solution of this problem, I must first dispose of the two affirmations of our antagonists—they “feel matter and know it exists.” I deny them both, and take upon myself to prove, that no Materialist ever did feel matter, or ever can know that it exists.

Having thus thrown down the gauntlet in the broadest and strongest terms, nothing remains but to arrange the conditions of the battle, that is, to premise the requisite definitions. Now it is upon the words “feel” and “know” that the contest is to turn; they must therefore be explained. We shall begin with the first.

The expression to “feel” is ordinarily applied to sensations which have not a great deal in common. Thus we say, we “feel” happy, cold, &c. In the controversy in which we are engaged, it refers to ideas derived strictly from the Sense of Touch.

In the foregoing part of the Lecture, when describing this sense, I mentioned that it is in some measure diffused over the whole body. Hence, as may be well imagined, impressions from this source career through the mind in an endless current. Myriads of them, of course, are never attended to, while those which become objects of consciousness immediately undergo a species of transformation. The primary sensation is converted into a secondary perception, and this being done, the mind instantly and further proceeds to draw an inference. But these two last mental operations must not be confounded with the first.

For that is the cause, while they are its effects, and one is a mere state of the mind, while the others refer to something external to the mind, and of a widely different character. When, therefore, the Materialists say they "feel" matter, they couple a fact, their being conscious* of a sensation, which is indisputably true, with ideas which whether true or false, must be investigated and proved before they can be admitted. An uninformed hearer, however duped by the language employed, never dreams that any discrimination can be required in so plain a case, and without more ado, acknowledges the whole account to be not only true, but self-evident.

Thus through the nearly universal carelessness and ignorance of mankind, in relation to such subjects, the Materialists duped themselves, deceive a few, and puzzle many, by the mere phraseology in which their argument is couched. Of this advantage an accurate detail of the facts will deprive them, and at the same time relieve you from a continued contemplation of abstractions. These facts, the proof of which will be in your own minds, are however so important, that every one will have to be commented upon as it is stated. We must take them in their order.

When I hold these spectacles in my hand, I experience a sensation—the sensation of resistance. If I exclude my other senses, and their introduction while it embarrassed the argument, would not at all aid my opponents, the Sense of Touch will obviously impart no further information, bearing upon our inquiry. It is then the sensation resistance,

* Consciousness it must be recollected is always restricted in such discussions as we are engaged in, to our being aware of the existence of a sensation, and excludes every subsequent affection of the mind. Thus defined, it obviously cannot be otherwise than true, while perceptions and inferences which are frequently confounded with it may be as we shall hereafter see, are, occasionally, false.

only of which I am conscious, and beyond this every proposition must be distinctly stated and fully proved. But this is absolutely impossible without the aid of metaphysical science. What then will the Materialists do? Will they consent to invoke the assistance of what they profess to scorn, and certainly have good reason to detest—the philosophy of mind; or, will they content themselves with their solitary truth? If so, it is well; but then their reasoning must be made to correspond with their single fact—that is, resistance which they do feel must be substituted for matter which they do not feel. Thus reformed, their argument would stand as follows: “we feel” resistance, “therefore we know it exists; produce now, that is, make evident to our senses what you call mind, or admit there is no distinct existence to which that name can be applied. But such evidence you have not, and must consequently acknowledge that” resistance “under one modification is cognizant of” resistance “in a different state, or more specifically that” resistance “in the shape of a man recognises” resistance “in the form of a stone”—an idea sufficiently surprising certainly, whatever may be thought of its truth. It has however the merit of simplification pushed to its utmost limits, and it is without doubt this circumstance which endears it to the Materialists.(d) But our philosophy requires a broader foundation of facts, and for these we shall accordingly proceed to seek.

In carrying on our proposed researches, a source of error and confusion will have to be revealed and removed, which is rather recondite, and to which slight allusion has hitherto been made. It is, nevertheless, the spring-head of all the difficulties attending the inquiry in which we are engaged, and furnishes to the doctrine of the Materialists, what-

(d) See note at the end.

soever of plausibility it possesses. Yet an exposure of their unfortunate creed to be successful, requires that distinctions be seen and borne in mind, which are by no means patent. To the bulk of mankind accordingly they never occur. But once familiar to the mind, the toils in which the Materialists are themselves entangled, and which they spread to catch others, are as cobwebs to the lion—he doth not feel, he doth not know them.

What then are the distinctions, on which I lay so much stress? They consist in separating a cause from its effects; in distinguishing between a state of the mind and a quality of matter; and lastly in recollecting that a premise is not conclusion.* These are all which it is absolutely necessary to comprehend; but for the full understanding of the subject, several collateral particulars must be included. The whole will now be laid before you; and for that purpose, recourse must once more be had to the spectacles.

When I hold these in my hand, I am conscious as already stated, of “the sensation resistance.” But no sooner is this experienced than our mental machinery, being set into operation, and moving according to its appointed laws, instantly excites in our minds, other and far different notions.

* Did these phenomena form a part of physical science, no observer would be so gross as to confound them. But appertaining to the diviner part merely of our nature, they are not thought worthy of attention, except by here and there an inquirer, at whose simplicity in attending to such trifles, his fellow mortals are wont to smile. The result is, that in what relates to the mind, not only can no theory, as it is called, be so monstrous as to fail in finding supporters; but no random assertion can be too glaringly absurd and revolting to have its believers. Science, however, even metaphysical science is descending slowly, and diffusing itself gradually through the mass. All hail! say I, to the extension of truth; and if mankind will only adopt and *act* upon right principles, they may rail at them in *words* to their hearts’ content.

These of course stand to the first in the relation of effects to a cause. Of these effects the primary one is the perception of the *quality* resistance. Now although as I have said the *sensation* resistance, is the immediate cause of our becoming acquainted with the *quality* resistance, and although what is if possible a wider difference, one is obviously a state of the mind, while the other appertains, as we shall hereafter see to matter, yet is the same appellation* applied to both, they are virtually blended into one, nor is any distinction ever taken between them, by superficial inquirers.

All parties then being equally unobservant of what passes in their minds, when a Materialist says he feels matter, his auditor acquiesces, both understanding the word first in one sense and then in the other. And not satisfied with this original blunder, they immediately fall into several others. For secondly, they confound the *quality* resistance with the substance to which it belongs. Thirdly, they disregard that quality altogether; and thus matter is supposed to be an object of direct perception. Fourthly, this perception is imagined to be the result of actual contact between the body felt, and the percipient power.

Here then are four mistakes in three words, and to these must be added, what was before mentioned, the transferring the certainty, which cannot but attend a sensation of which we are conscious, to the supposed material cause of that sensation, although the reality of such cause, so far from

* Precisely the same inaccuracy of language occurs with regard to the other senses, except that of hearing. The sweetness of sugar, the greenness of grass, the smell of the rose, are all instances in which the same words are used indifferently for causes or effects, for sensations in the mind, or for qualities in things. But no one confounds the tune with the fiddle.

having been proved, has hitherto been scarcely adverted to.

The result of all this inaccuracy of observation, confusion of thought, and ambiguity of language, is, that the ill-taught assertor of the independent existence of mind, having incautiously conceded the postulate, that matter is felt, and being thereupon required, unreasonably enough, to produce evidence not only equal in degree, but similar in kind, finds himself puzzled, if not conquered. Whereas had he scrutinized with care and intelligence, the operations of his own mind ; had he familiarized himself with the distinctions, on which I lay so much stress, instead of yielding the required concession, he would at once say, " No ! how can you possibly expect me to assent to your assertion, that you feel matter ? In the first place I have already denied, and do again express my complete disbelief of the fact. But secondly, you ask me to grant the very point, upon which the whole force of your argument depends. If I admit you feel matter, I admit its absolute existence. Now it is upon the certainty with which you can establish such existence, that your entire cause rests. In appearance and manner you are confident enough of your ability to prove all you wish, while in reality you beg the question in the form of a loose, ambiguous, nay, garbled postulate. I add the last epithet, because, as I shall hereafter show, when in your phraseology you feel matter, you experience at the same time other impressions with at least equal certainty, and these you leave out of view. But to such an omission I cannot consent ; you must include *all* your feelings connected with the point at issue, or you must make no appeal to them ; if you attempt the former you commit *felo de se*, as will in due season be rendered manifest ; if you adopt the latter, where is your argument ? Would you be advised by an opponent ? Change your tactics ; for in your present mode of conducting the discussion, instead of proving what you wish, you unwittingly

tingly concede its reverse. Thus you say you feel matter ; the sensation we admit ; but sensation implies consciousness, and consciousness, by definition, is a state of the mind. Here then we have mind, by your own acknowledgement ; yet from this very acknowledgement, and through the aid of another of the mental powers, you are endeavouring to sustain your doctrine ; in other words, you are engaged in the hopeless task of disproving the existence of the mind, through the agency of its own functions !

“ But you will perhaps object to our definition. Do so if you think proper, yet take heed what you are about ; for whether there be such a thing as matter or not, the fact has not hitherto been made to appear. Yet until it does, you are exposed to a maxim, as true in philosophy as it is in law, *de non apparentibus et non existentibus eadem est ratio*. If therefore you discard our mind before you establish your matter, you will attain the sublime conclusion imputed to the Lordly poet, that”—

“ Nought is every thing, and every thing is nought.”

Such a reply to the assumption of the Materialists that they “feel matter,” defies, I think, all rejoinder. You are not to suppose however, that because I repudiate the logic of the Materialists, I therefore deny their conclusion—the reality of matter. That I acknowledge,* but not in their way, nor for their reasons, and as you are at length prepared to understand the premises from which this conclusion really flows, and the degree of certainty which in truth attaches to it, I will now proceed to lay the whole before you ; that is to say, I will now explain how the idea of matter ob-

* This acknowledgment, it is almost superfluous to remark, must not be pleaded in argument, unconnected with the reasons on which it is founded. Thus united, it is at the service of any gentleman who may wish to take advantage of it.

tains entrance into our minds, and how far we can be said to *know* that it exists.

For the accomplishment of these objects I shall have to define, as I formerly promised to do, the word *know*. In its philosophical sense, and as used by the Materialists, it means so certain a conviction of the truth of some proposition, as to preclude all possibility of error. According to this definition I apprehend, to *know* that matter exists, is not within the scope of our faculties. There is in my judgment sufficient evidence to warrant a *belief* of the fact; and with such belief, Materialists as well as others, will have to content themselves.

To prove this I shall have to recapitulate some of the facts which have already been established.

It has been shown that under certain circumstances we experience the sensation resistance. It has been further shown the instant this occurs, a conviction arises in the mind, that there exists also a certain quality to which the same appellation is applied. Now if our mental operations were to cease at this point, it is quite clear we should have no conception of the *substance* matter. But they do not cease, and will with or without our volition, carry us onward, and force upon us the conclusion that resistance being a quality, cannot subsist *per se*, and must consequently depend upon something—or substratum as it has been termed. That substratum* is of course what we have been so long in search of, namely, matter. This interesting dis-

* The nature of this substratum is, and must forever, remain unknown to us. But this it is, and not the sensible qualities of the bread and wine, which according to Hallam, the Romish Church insists is changed by the act of consecration. This view of the case completely foils the vulgar argument against transubstantiation, though advanced by Tillotson, and endorsed by Hume.

covery then you perceive, so far from being the result of direct and immediate perception, is brought about by a very curious and complex process of the mind. By a process so rapid indeed as to escape ordinary notice, but nevertheless capable of being entirely unravelled and perfectly comprehended. What is singular the sequence of actions which leads to the idea of matter, is originally confined to the Sense of Touch. Thus, nothing of the kind takes place independently of the laws of association, with regard to tasting, smelling, seeing, as I am persuaded, and above all hearing. And, accordingly an illustration from the last mentioned faculty, will facilitate your understanding, what I have been endeavouring to unfold.

When we hear a noise in the street of a particular kind, we say, according to our experience, we hear a coach or a fire-engine. But if reminded of the intermediate agent "noise," the loosest observers are at once aware, that they do not hear the coach or engine, in the same sense, in which they would say they felt those machines, if their hands were upon them. In the former case the difference between perceptions and inferences is palpable ; for all will say we hear a sound, and suppose so and so. Now only apply the same discrimination to ideas derived from the Sense of Touch ; keep in view the intermediate agent *resistance*, in the one case, as you do noise in the other, and the mists in which the Materialists envelop their doctrine, will be sufficiently dispersed for the truth to appear. That it should beam fully upon you, a further analysis is required.

I have already stated the train of thought which gives rise to the idea of matter. But with that idea, when it refers to an external body, other notions are inseparably associated. These are frequently disregarded, I admit, but they are nevertheless always present, and may be recognized by any one who chooses so to do.

Thus, when I press my hand upon this table, I not only become cognizant of its existence, but I am also informed, that it is both external and alien to the power which perceives it. I am notified further, that the said table exists now and here ; in other words, that it endures through a certain portion of time, and fills a certain portion of space. Of the two last ideas, I shall have something to say hereafter ; our immediate business is with the two first.

Our notion of outness or externality is not necessarily accompanied by that of matter. It can be excited by mere pain ; thus, when we experience a simple twinge of the tooth ache we suffer, and are aware that the cause of our suffering is *without* the mind, but the idea of matter does not occur to us. With regard to foreignness our idea of it is very faint, unless it be conjoined with that of matter ; then it is sufficiently vivid, in so much that whenever the notion of matter in its concrete form, enters the imagination the conviction is just as strong, that such matter is unlike the mental power which perceives it, as it is that there is any matter at all. In other words, when I press this table, I am to the full, as confident that it is at some distance from my mind, and different from it, as I am convinced there is a table ; nor can I by any possibility insulate the principal idea from its accessories. If the first then be taken, the others must accompany it. If, therefore, matter be held to exist because it is felt, mind must be held to exist also, and if possible, with more certainty, the evidence in its favour being as three prior perceptions* to one succeeding inference.

You are now satisfied I hope of the truth of what I formerly stated, that the postulate of the Materialists—they feel matter, is a loose, ambiguous, and above all, a garbled

* The third perception is the quality resistance ; and there may in truth be added our notions of time and space.

one ; and that if the *whole* of the facts be taken into the account, and arranged in their proper order, two things (e) never to be omitted in philosophical investigation, their doctrine cannot stand. These gentlemen are thus placed in a most awkward predicament. For if they will not advance beyond the primary sensation they are discomfited, since sensation is not matter. If they take the second step, so as to perceive the quality resistance, and will then proceed no further, they are defeated, because quality is not substance. And lastly, they are utterly vanquished if they attempt the final and decisive act—the recognition of external things, because antecedently to such recognition, and afterwards indissolubly united with it are the perceptions of outness and foreignness, time and space—perceptions as demonstrative at the least of mind, as is resistance of matter.

The deniers of mind have then I fear placed themselves between the horns of the dilemma, by the one or the other of which they are in danger of being gored. For they cannot prove that matter exists, without at the same time proving, with even more certainty, if possible, that mind exists also ; and the laws of philosophy will not permit them to *assume* the existence of matter, and from that assumption deduce the non-existence mind, for this would be not only to associate ideas destitute of connection, but it would oppose an *inference which is negative, to facts which are positive.*

I repeat then that our friends must submit to be impaled. For they are obliged either to accept of our mind, with their matter, or relinquishing mind, matter goes along with it, and so far as it is practicable for them to ascertain themselves, the earth, and the universe, keep it company !

Having thus shown you the origin of our belief in the

(e) See note at the end.

existence of matter, I must next explain, the manner in which we refer bodies to a moment of time, and a point in space.

With regard to the first of these impressions, there is no great difficulty ; the idea of duration is necessarily associated with every sensation, either during its continuance, or as having been. But the notion of position is quite a different thing ; for you are not to suppose it is simply because my fingers press on this table, that, therefore, and for that reason only, I suppose it occupies this particular spot. Not at all ; had there not been a special law made and provided for such occasions, I should indeed infer there is a table, but its precise location I could never have imagined. That law may be thus stated : Impressions made upon any point of a sentient nerve, are ascribed to a particular part, and usually, perhaps uniformly, to the sentient extremity of such nerve ; and this, although the impressing cause, act, as we shall hereafter see, upon the middle of such nerve, or even the reverse, its extremity.* Nay, it is by no means uncommon, through what is called sympathetic action, or more definitely, misplaced sensation, for pain to be felt in one part of the system, while the offending matter is lodged in a different, perhaps a remote region of the body, where it gives no intimation whatever of its existence.

But whether a true reference take place or not, it is evident upon the slightest reflexion, that *an* act of reference is indispensable. Because the mind never can be conscious of any thing external to itself, and but for the provision under discussion, resistance would be all it does or could know—the information imparted by the eye, as in a person born blind,

* In extirpating the eye, the optic nerve is separated between the retina and the brain, yet it is in the former that an intense flash of light is perceived at the instant of the division.

not bearing upon the question. How then, I say, comes my mind, although at the distance of several feet, to suppose that the cause of the resistance which it experiences; that is, the table occupies this particular place? The notion of locality is a perfectly definite one, and its reception by the mind must be accounted for. That is done by the law above announced, and as far as I know, by that law only.*

Having now explained to you the mode in which the mind acquires the idea of matter, and the several associations inseparable from that idea, I may remark, that although our notions of external things are primarily derived from the Sense of Touch exclusively, yet those notions when once obtained, are confirmed by the combined action of the other senses, particularly the eye. Hence we say as familiarly that we see a thing, as that we feel it. And secondly, our convictions respecting external bodies are further strengthened by another of the laws regulating our mental operations, and which may be thus expressed. Whenever an impression (*f*) derived from our organs of sense, acts upon the mind with sufficient force, the conviction, however unfounded in fact, is complete as to the *reality* of the cause of that impression. Accordingly, a belief which in our cooler moments we know to be absurd, may for a time at least, and in despite of our efforts, overpower us. How many persons are there for instance, who, sceptical enough as to supernatural appearances in the broad glare of day, can not persuade themselves that all they may behold or hear is earthly, if alone, near a sequestered burying-ground, in a gloomy twilight, illuminated by an occasional flash of lightning? Thus situated, reason

* The same law explains at once whence we derive the idea of space, it being involved in the location of bodies. When once obtained, its indefinite expansion is sufficiently obvious.

(*f*) See note at the end.

might be summoned, but vainly summoned to resist the united force of impressions from without, and associations from within. In the ordinary affairs of life, however, not one in a million ever for a moment suspects a want of truth in the intelligence communicated by his senses. With that intelligence, that is, with the modifications of matter, or with reminiscences of those modifications, we are occupied nearly the entire whole of our waking hours. Now the tendency of all these combined causes being to force upon us the conviction that there is really and truly an external world, their united power, in the usual state of our minds, is absolutely uncontrollable. A keen metaphysician, indeed, rapt in the ardour of inquiry, and plunging and revelling in the depths of abstraction may, occasionally, like Berkely and Hume, and eke myself, if my humble name may be conjoined with theirs, believe for the moment, that *all* is mind. But for my own part, whenever my conceptions have been thus sublimated, a few strides* on *terrâ firmâ* have sufficed to dispel the illusion, and restore the sobriety of truth in the humbling conviction, that soar as we may, for the instant we are nevertheless “of the Earth—Earthy.”

Is it possible then, you may be inclined to ask, that a belief so universal and so strong, as to be doubted temporarily only, and by the minutest fraction of mankind, is it possible, that after all, such a belief may be founded in error? Yes, I fear so, because first, the thoroughness of our convictions as to the truth of some opinion, is of little avail in proving the correctness of that opinion. And secondly, although in questions of moral propriety, the determination of the good and the wise is decisive, yet on many occasions, particularly as regards physical truth, what the mass may think is of little, on others of no im-

* Mr. Hume's corrective is said to have been a game at whist, and a glass of port.

portance at all. Nay, where passion and prejudice can operate, the united voice of the multitude becomes absolutely a negative quantity. (g) Of the former, a belief in the influence of the moon is a sufficient evidence, and for the latter I need only cite the well-known exclamation, and "they," that is, "the chief-priest, the rulers, and the *people*, cried, saying, crucify him—crucify him."*

But, independently of these general considerations, errors sometimes occur in all the intelligence imparted by our external senses. The deceptiveness of four of them is, indeed, universally admitted; and though with the multitude "seeing is believing, but feeling is knowing," yet it is demonstrable that the Sense of Touch, if less apt than the others to impose upon us, is nevertheless liable to do so from what may be termed the *indirectness* of our perceptions. What that means I will now explain.

You may recollect that when I enumerated the errors involved in the expression "we feel matter," I mentioned as one of them, the supposed contact of external bodies with the percipient power. Now this power is manifestly the mind, and that is situated unquestionably within the substance of the brain, consequently more or less remote from the impinging body. But there is no contact between such body and the nerves of touch, not only because the insensible cuticle or scarf-skin, unless temporarily abraded, is always interposed, but because in nature there is no such thing as contact either between bodies themselves, or between particles of the same body. As the latter proposition includes the former, if we can succeed in proving that, our point will be gained.

It is evident that if the particles of any substance be

* Luke xxiii. 21.

(g) See note at the end.

already in contact, they cannot be brought nearer to each other. If, therefore, they can at any time be more closely approximated, it is clear they were not previously in contact. But if we reduce the temperature of the densest bodies, they will contract in every direction. It follows, their particles could not previously have been in contact in any one direction.

Again. The rays of light cannot pass through the particles of matter. In permeating bodies, they must consequently take their course between the particles of those bodies. But these rays are transmitted through the hardest masses in every possible direction, and with equal facility. It follows there can be no contact in those masses by points or otherwise, to interrupt their progress. As, consequently, there is no contact between the particles of bodies, *a fortiori* there is none between bodies themselves, and none of course between the cuticle of my fingers and the table. And be not amazed at this conclusion. For it is far less startling than the astounding fact, proved as I think, by those ingenious gentlemen the astronomers, that while we are all here in a state of apparently perfect quietude and repose, we are actually whirling through space, heels over head, ten times as fast as ever yet a cannon-ball "winged its way!" (*h*)

It is then beyond all doubt that we do not "feel matter" in the manner assumed by the Materialists; there being as certainly in the case of the tactile as of the visual faculty, a medium interposed between the organ and external bodies.

But if this were otherwise, if the table and my fingers were in contact, it must be recollected that our organs of

(*h*) See note at the end.

sense are neither the mind, nor the seat of the mind, that, as was before stated, being at some distance, and doubtless somewhere within the cranium. At that point wherever it is, all impressions from without must be finally received. When, therefore, a sentient nerve is acted upon by its appropriate stimulus, the action which it excites, whatsoever may be the nature of that action, has to be transmitted in some mode or other, through such nerve to the *habitat* of the mental faculties. With respect to the olfactory, optic, auditory, and gustatory nerves, the route to be travelled is comparatively short, and leads directly to the brain. But the case is very different with the Sense of Touch, as situated in the fingers and toes. From them impressions have to pass through some feet of nervous chord, some inches of the spinal marrow, and a portion more or less considerable of the brain itself. Here then is ample scope for irregular action, and consequent deception. For the immediate physical cause of our perceiving external things, must be a certain condition of that portion of the cerebral substance, which is last affected antecedently to the act of perception. It is therefore absolutely certain if that portion can, through any other agency whatsoever, be thrown into the same condition which ordinarily causes us to perceive exterior objects; the mind in both instances being acted upon in the same manner, must come to the same conclusion. But in one instance we have, or suppose we have, an external tangible cause for such conclusion. Whereas in the other, there is by hypothesis, nothing of the kind. All we have to do then is to convert the hypothesis into fact.

Before attempting this, however, I have to admit that not knowing what is the precise state of the deeper seated parts of the nervous system, which is the immediate antecedent of sensation and perception, I cannot demonstrate that that state is always the same, whenever those mental results occur. But I can demonstrate what answers my

purpose equally well—that the mind does through internal physical agency, that is, internal as regards the distant sentient extremities of our nerves, and independently of impressions upon those extremities, go through precisely the same operations, and arrive at the same results (*i*) with those usually ascribed to the action of external physical objects. It follows consequently that an idea which may be true in one instance, is certainly false in the other. But where, in philosophical language, we have an event sometimes preceded by a particular antecedent, and sometimes not so preceded, we are not authorized to predicate universally that such antecedent and consequent, stand towards each other in the relation of cause and effect. And consequently we cannot affirm in any given case, other proof being absent, because we observe the second of these events, that therefore the first has preceded it. Yet our senses are necessarily the sole witnesses upon whose testimony we have to rely, for our belief in an external world. It becomes then a question of fact, whether these witnesses do ever play us false—that is, whether our nervous machinery does fabricate and impart to the mind clear and distinct, but unfounded notions? Now that this happens frequently, and that it may be made to happen at any time is certain. For in the first place, we have occasionally dreams depending upon nervous irritation, which give the most vivid ideas of external things, independently of all external agency. Secondly, we have a large number of maniacs whose disease consists entirely in erroneous impressions, communicated by their organs of sense. In these persons the mind reasons logically, but from false premises, deceived by the channels through which it is obliged to receive its data.*

(*i*) See note at the end.

* It may perhaps be objected, that these cases prove nothing, since madmen furnish the example. To this I reply, there is no evidence of which I am aware, to evince that we who conceive ourselves sane, are right in

Thirdly, it is a well known fact, that where a lower limb has been removed, the patient "feels his toes," as he expresses it, for some weeks afterwards. The nerves which were formerly continued to those members being in a state of irritation, undergo the same changes they formerly did, affect the brain consequently in the same manner, and lead the mind to the same conclusion. Now here it is evident that but for the memory, the eye, and the Sense of Touch, in the other parts of the body, the patient would still believe the amputated toes to be in their wonted situation. *And for this belief he would have all the evidence that what is commonly called consciousness* could afford him.*

Precisely the same phenomena, physical and metaphysical, are of perpetual occurrence in what are now called cases of spinal irritation. Thus a gentleman of high rank in the law, walking in the street, felt what he imagined a chip or other hard substance in his shoe. He stepped into a store to remove the extraneous body, and thus relieve himself from the pain which he supposed it caused him. Upon taking off shoe and stocking, to his amazement, nothing could be found. And if I may be allowed to quote myself as authority, I can state that having been for many years, as I suppose, the subject of this affection of the spine, I have probably an hundred times felt pains about my hands

our notions other than this—we all concur. There was, therefore, more than wit in the reply of the lunatic, who discoursed so sensibly, that some one was induced to ask him why he had been consigned to an asylum? "He knew not," he said, "except that he and mankind differed as to certain particulars, and the majority being against him, they had locked him up."

* Consciousness, as before stated, is restricted in metaphysical language to the experiencing of a sensation excluding every subsequent affection of the mind. And we now see the propriety of the limitation, as otherwise consciousness itself might practise tricks upon us. In that case, upon what could we rely?

and fingers, and which were sometimes unpleasantly sharp, precisely as if some cutting instrument were dividing the skin. I have sat, feeling the sensation, and seeing there was no external local cause for it, and then betaken myself to philosophizing about it.

But we have more striking, and more baneful evidence of sympathetic action between the origin and termination of the nerves. It is now well known that the heart, lungs, stomach, &c. &c. not only cause us to suffer, but to die from disease, commencing in the proximate, and then transferred to the distant extremities of the nervous filaments with which these organs are supplied. Accordingly of the multitude of victims to consumption, not a small proportion are secondary, not primary cases.*

But fourthly, we can at any time cause our fingers to fall into error, by crossing the first and second, and placing a pea between them and the palm of the other hand. When this experiment is performed a distinct impression of *two* round bodies is received.

Lastly, every mother's son of us is deceived, as far as all our senses can deceive us, in relation to the motions of the Sun and the Earth.

It follows then, that the hypothesis which I undertook to convert into fact, has been so converted. In other

* Thousands of teeth have been drawn which were perfectly sound. Thus, I was consulted by the wife of a medical man, whose life had been thought in danger, through distress and loss of rest from toothache. Tooth after tooth had been drawn, without relief. On examining her mouth, and observing no defect in those which remained, and understanding none had been discovered in those which had been removed, I suspected the disease to be sympathetic, prescribed a few doses of calomel and jalap, and cured the patient.

words, I have proved our nervous machinery does occasionally originate within itself, and impart to the mind clear and distinct, but unfounded notions of external things. The conclusion then is unavoidable, that all absolute certainty as to the existence of matter is precluded by the moral constitution with which we have been endowed by our Maker, and therefore, as I before stated, Materialists like the rest of mankind, must be satisfied with belief, since to *know* has not been vouchsafed to them or us.

Having now completed the promised analysis, we are prepared to specify and sum up the results which have been obtained. They are as follows: the *mind* is conscious of the sensation resistance: that quality as the *mind* infers, appertains to something external and foreign to itself, which something the *mind* conceives to exist in time and space.*

Now I beg you to observe how manifest throughout the whole of the foregoing enumeration, is the primary and pervading action of the mind, and how secondary, subordinate, and dependent, is our belief in matter. Will then, the Materialists, with this sequence of facts before them, persist in a doctrine which inverts the order of events? If so, they should in fairness, I think, acknowledge and premise the peculiarities which distinguish a school, where conclusions have no relation to premises, and where effects are *followed* by causes. In virtue of the first of which new rules of philosophizing, the inquirer is led from the

* It would be of course ridiculous to state all these circumstances on every occasion, to say I feel this or that thing being quite sufficient for the ordinary purposes of life. But this brief mode expression, though admirable for the despatch of business, is not equally favourable to fullness and accuracy of thought. Horne Tooke's motto therefore to the *Diversions of Purley*, *Dum brevis esse laboro obscurus fio*, is true to a greater extent than that acute grammarian was perhaps aware of.

admission of passive substance to the *denial* of independent intelligence ; and in compliance with the second, mind, the power recognizing matter, is held to be derived from that matter with which itself has made us acquainted !

Having thus 'denuded, and thereby been enabled to rectify the errors of my unfortunate opponents, with one further remark, I will submit my cause to their, I flatter myself, now enlightened common-sense. The remark is this : It is alleged, that according to my own admissions, there may be but a single basis—a solitary substratum for all the phenomena which we witness, or are conscious of. Then why not, it has been asked, call that substratum matter, and not mind ? I reply, although it is a self-evident truth, that nothing whatsoever can be present to the mind, except its own impressions, and that therefore its existence is alone absolutely certain. Yet I think I have demonstrated that under the circumstances which I have mentioned, we infer with a force entirely irresistible, the *cause* of those impressions to be something external to the percipient power, and altogether different from it. There is, consequently, sufficient evidence to establish the existence of *two* substrata, between which, as far as we can discover, there is no resemblance. Now, I ask in my turn, if that can be called philosophy which rejects a conclusion regularly deduced from undeniable premises, and adheres to an hypothesis whose only support is a conceivable possibility, that it may accord with the truth ?

I have thus, gentlemen, in an argument too long, I fear, but as plain as some thought and labour could render it, exposed the mistakes into which the Materialists have fallen. But my design would not be consummated did I not point out what, with regard to the great mass of these misguided persons is, I am confident, the source of their misfortune.

It results from a delusion common to the whole race, and one in which of course, primarily, we all participate. It is this: Until disabused by science, *we confound familiarity with knowledge*. Thus ask an ordinary person why water runs *down* a hill, and if he thinks you serious, he will be amazed you do not understand so plain a thing. If, however, you speak to him of water flowing *up* a mountain, you will make him stare. Yet one of these events, antecedently to experience, was just as probable as the other, nor would one have been one whit more inexplicable, than is the other. For what is called an explanation of the descent of bodies, is a mere declaration that it takes place not only here, but throughout the Solar, and most probably the Stellar System also. But to show the indefinite extension of a fact, can surely throw no light upon the *cause* of that fact.

Precisely in the same manner, from our earliest infancy, we are conversant with matter in the bodies by which we are surrounded. This matter we think consequently we understand perfectly. But when at a later period of life, our attention is turned to the operations of our minds, we are at once aware we know not *their* nature. As this discovery is usually made when our curiosity, being just awakened, is most intense, this state of acknowledged ignorance is exceedingly embarrassing. A Materialist comes across us, and says, "do not be uneasy. There is no difficulty—no new agent in the case, your old and familiar friend matter will account for all." This assurance is urged so confidently, and, is at first, so satisfactory, that it would be received far more generally than it is, but for two considerations. These are, first, the sentiment of religion, and secondly, self-respect. Of the former, I shall have something to say by-and-by, and with it the latter co-operates, not readily allowing us to admit that we differ in nothing from a clod or a cabbage, save in the num-

ber, variety, and arrangement of our atoms. The metaphysician now steps in, and shows, that the pretended explanation is no explanation at all, since we know no more what gives rise to physical, than we do what produces moral phenomena.

The same refined, but not therefore inaccurate reasoner, further insists, and as to the bare fact, every one of necessity accords with him, that there are two trains of events going on, the one within, the other without us, which events have no similarity—nothing whatever in common. It is not therefore he says, more a maxim in philosophy, than a dictate of sound sense, that *causes cannot be entirely the same, where effects are utterly diverse.*

On the whole, then, I trust the problem has been solved, and that it has been proved that there “does more than a single, solitary element enter into the composition of man.” That though “formed of the dust,” as he doubtless was, yet was there “breathed into his nostrils” by his Creator a more subtle—a diviner essence. And this brings us to the second branch of our subject. Had man indeed a Creator, or more generally, had the universe one, or has it existed from all eternity?

That it has so existed is maintained by a class of reasoners, who have wandered still more widely, and more deplorably from the right path, than those whose errors we have just been combating. I allude to the Atheists. Their number is, I believe, small, but they rank among them some eminent names, that of La Place for example.

In opposing the doctrines of these unhappy persons, it would be, of course, useless to quote the Bible. The argument must, therefore, be one of pure philosophy. And the mode in which I propose to conduct it, is to inquire

whence has arisen the belief of a Supreme Being in the minds of men, who from the times in which they flourished, or the countries in which they lived, could never have heard of Revelation ?

Preparatory to the proposed investigation, I must premise a distinction, which has, I apprehend, been sometimes lost sight of. We must not confound the source of the primary idea of the Deity, with the corroborations imparted to that idea, by subsequent observations and reflections, *after it has been once conceived.*

The idea itself, under the circumstances supposed, has been ascribed to the four following causes ; and I cannot imagine a fifth.

To Tradition.

To the doctrine of Physical Causes.

“ “ Final Causes.

To the workmanship of the Mind itself.

I shall examine them in the order in which they are stated.

Those who rely on the argument from tradition, suppose that the information imparted to our first parents, has been handed down to the present day, from generation to generation, in every part of the world.

But this theory can avail nothing with our opponents, who would call upon us to prove the communication of the alleged information, which it is clear we cannot do to their satisfaction. And to me, I must confess, the supposed tradition seems entirely incredible. Can it be believed that savages, pressed from birth to death by the want of raiment, food, and shelter, in so much that some

have been found who were ignorant of the use of fire ; can it be believed, I say, that such stupid, starving creatures, would preserve from age to age for thousands of years, a truth sublime indeed, but having no reference to their daily exigencies ?

Lastly, the case of Julia Brace seems to me conclusive. Though as before stated, deaf, dumb, and blind, she was, I understand, manifestly impressed with the conviction of a Superior Power. How could she have obtained the idea through the ear, or any other of her senses ?

The philosophical train of reasoning most commonly relied upon by Theists, until the recent investigations with regard to final causes, was deduced from what are denominated physical causes. The argument has been usually thus stated : As we never see an effect without a cause, if we extend the chain sufficiently, we must ultimately arrive at the First Cause.

But this logical formula has, I fear, no greater claims to accuracy than that of the Materialists upon which I have just descanted so much at large. For, in the first place, the use of the word effect, involves something like a *petitio principii*, or, at any rate, takes causation for granted, and this must be proved and not assumed.

Secondly. Whether there be any such thing as causation or not, it is certain we do not see it. What we do see are events—a series of events, and nothing more. One follows another regularly in point of time, but invariability of sequence is all it is possible for us to observe. Thus the bullet is projected from the gun after the ignition of the powder. To that substance a spark had been applied, &c. &c. Here are occurrences, and occurrences alone ;

and however long the chain might be, its *character* would not be altered—physical events at first, and physical events throughout. But these will not answer our purpose, and a new element must consequently be introduced into the reasoning. That element has been stated to be the constitution of the human mind, which, it is alleged, compels it to believe, that there is a power in the antecedent, which causes the subsequent incident. Granting there is such a conviction, and such a power also, yet the latter, if it exist, is never manifested except *between* two events, and consequently can never be proved to have produced the first of those events. But it is a power antecedent to the primary movement in matter that we seek ; with secondaries, except as scaffolding, we have no concern. And let it not be said, that as matter is altogether passive, motion in it could never have commenced but for some agency different in its nature from matter. For however this may be, the remark is of no value, because mind is in precisely the same predicament—action invariably requiring, so far as we can ascertain, or, in truth, conceive, antecedent and continued causation, without the slightest reference to the subject of that action.

Lastly, the Atheists insist that the series of phenomena which is going on before our eyes, had no beginning, and will have no end—an affirmation, which it would, I apprehend, be difficult to impugn by any species of proof to which they will listen, unless perchance the following argument should find favour with some of them. It is far too refined and elaborate I admit, as, is in truth, all argumentation that can be brought to bear upon the subject, for the minds of Caffres and New-Hollanders. But where there is greater reach, and more cultivation of intellect, it may have its weight. At any rate, attaching importance to it myself, I am willing to submit it to the judgement of others.

As the basis of my reasoning, I have to assume,* that the Atheists have *positive* doctrines of some kind or other. For where they take the ground mentioned by Mr. Hume, (j) that we observe certain circumstances which pass without us, and are conscious of various sensations which occur within us, and as beyond these we can perceive nothing, so beyond them we will infer nothing ; if, I say, we are to be thus *estopped*, why then, undoubtedly, as all exercise of our reason is precluded, that faculty can neither establish nor refute any proposition whatsoever. But if the Atheists will advance a single step beyond this position ; if they will acknowledge, that our discursive are not inferior to our perceptive faculties, and consequently, supposing the logic to be sound, equally entitled to command the assent of the understanding, why then I think they may be dealt with. For my unfortunate opponents having proceeded thus far, will probably admit that there is such a thing as matter, and that it is governed by laws which are uniform. *They*, in truth, cannot object. A disciple of Berkeley indeed, if he who was

“ Endowed with every virtue under Heaven,”

have now on earth a disciple, may plead his privilege. But a Berkeleyan and I agree on this occasion, and all others must concede what I ask. With these concessions then, reasonable, as I think, in themselves, and which, so far as they are *ad hominem*, cannot be refused me, I hope to make out my case. Let us now see if this can be done.

* It may be necessary to apprise some of my readers, that where nothing is granted, nothing can be proved. The object of all ratiocination is to show, that the proposition to be established is contained in some other proportions more or less remote, which are admitted to be true. The primary propositions must therefore of necessity be conceded by both parties, and ought always to be premised, as Euclid has done with his postulates.

(j) See note at the end.

If the substance matter exist *now*, it must have existed from all eternity, or it has been created in *time*. But if created in time, then it has been called into existence by some quality inherent in itself, or by a power both antecedent and extrinsic. The former hypothesis, however, is inadmissible, because it involves the absurdity of supposing this creative quality to have *preceded* the genesis of the very material to which it appertains, and from which it cannot be separated even in imagination. A definition indeed settles the point, since the very term "quality" implies a previous something, of which that quality is to be predicated. In other words, "the wonderful fecundity of matter," as La Place has it, could not have been prior to matter itself. It may be held, consequently, as a demonstrated truth, that if created at all, matter is indebted for its origin to a source other, greater, and more ancient than itself—that is, to the Supreme Being. But this, of course, our antagonists will not allow; and those who admit there is such a thing as matter at all, maintain that it has existed from eternity.

But if matter have existed from eternity, then its laws have been also in operation from eternity. For otherwise those laws have been impressed upon it in *time*, and by some external and superior power, since matter could no more impose *new* laws upon itself, than it could create itself. Our opponents, however, will no more acknowledge such a power in this case, than in the former. The eternity of matter, therefore, and the co-eternity of its laws, are two propositions by which our adversaries must stand or fall. If either fail them, their only alternative is to enlarge their creed, or abandon their reason.

It only remains, then, to be seen, whether one, or still more, whether both of these positions can be successfully

assailed. In attacking them, I shall begin with the second, and confine myself to the *chemical* laws of matter, as the argument deduced from them is equally conclusive as from any, or all the others. Let us then endeavour to ascertain whether there has been no commencement to the action, that is, to the existence of these laws. For no one, I presume, will contend that chemical affinities lay dormant for countless ages, and then spontaneously burst forth with all their energies.

It is a self-evident truth, that if the universe were composed of *one* simple chemical element, no chemical action could ensue. If it were composed of two, having an affinity for each other, they would combine, and then their mutual agency would cease. Were there three elements only, two might first unite, and they with the third. Were four the number, an additional combination might take place, &c. The general proposition cannot then, I think, be controverted, *that in a body or system of bodies, where the number of chemical elements, how great soever, is limited at all, the number of chemical changes which those elements can undergo is also limited.** But these changes being in constant progression, *time* is the only condition requisite for their completion. They are not yet completed, however. They have not, therefore, been going on from all eternity, since in eternity *time* must have perfected whatever time can accomplish. There was, of course, a period at which

* As far as I can judge, the number of chemical combinations not only cannot exceed the number of chemical elements, but, if these be limited, must be one less. Yet these elements themselves bear an inconceivably small ratio to the amount of material particles, since all the existing atoms of sodium, for instance, supposing that to be a simple substance, constitute but one element in chemistry. Hence, according to the doctrine hereafter to be maintained by the Atheists, it will follow that there are *two* things infinitely numerous; one of which is, nevertheless, to the extent of our comprehension, *infinitely less numerous than the other.*

as no chemical changes occurred, there could be no chemical laws. These laws consequently did not then exist. They have necessarily, therefore, originated in time, and as they could neither create themselves, nor be created by matter, they must have been impressed upon matter by some external and superior power, which was to be proved.

Again. In every case of chemical action, the stronger affinities overcome the weaker. The tendency, therefore, always is to the firmest unions, and to those ultimately, which are absolutely indissoluble. But few, perhaps none of these have as yet taken place. Now the only element which can be wanting for that purpose—the only one which is not already present is *time*. There has not, consequently, hitherto been time enough to effect at any rate, *all* of these irrefragable combinations. The processes necessary, therefore, for their completion, have not been in regular progression from all eternity, since “in eternity *time* must have perfected whatever time can accomplish,” &c. &c. &c.

But as the foregoing argument is a very general one, a particular illustration of it may not be superfluous.

It is quite clear that oxygen, for example, has a greater* attraction for some one element than any for other which exists in nature. However the fact may be, we will call that element carbon. With carbon then oxygen will unite in preference to any other substance, whenever it has an opportunity of so doing. Its tendency to form such a union being incessant, as has already been shown, and the com-

* It would answer the purposes of my argument equally well, to suppose the affinity of oxygen for carbon to be *as great*, as for any other substance.

bination when effected being for ever, it is matter of demonstration, that the ultimate result of the chemical laws now in operation must be a state of universal chemical quiescence. But as yet there has not been time for that result, &c &c. (*k*)

There was then an epoch when no chemical laws prevailed. But matter, destitute of chemical laws, is contrary to all our knowledge and experience, and therefore its existence in such a state cannot be admitted. It follows, therefore, that as the chemical laws of matter have had a commencement, so matter itself has had a beginning; it has consequently been created, and its laws stamped upon it by a superior Being—the proposition which was to be proved.

Now the only possible mode of escape from the foregoing conclusion, is by the adoption of *three* assumptions, all incomprehensible, and all destitute of proof. The first of these is, that the number of chemical elements in the universe is absolutely unlimited; the second, that these various elements are so situated in space, as to come within the range of their respective affinities; and lastly, that a succession of these elements has, in point of fact, acted from eternity upon the mass of which our globe is composed.

With respect to the first of these, the *onus probandi* lies perhaps as much on the one side as the other; we will therefore say no more about it. The second is rather unwieldy, though something like evidence in its favour should be furnished. But the third being the averment of a specific fact, we have a right to ask, Where is your evidence? If this be required, it is obliged to be conceded, there is none of a *positive* character, and recourse must of consequence be

(*k*) See note at the end.

had to the *argumentum ad ignorantiam*—we do not know that it has not been so. But this is altogether inadmissible. For this were not simply to reverse the order of science, but to annihilate science, since it is the well-known rule that in the pursuit of truth, we are to proceed from the known to the unknown. Whereas, according to Atheistical dialectics, we are to advance not only *from* the unknown but *against* the known. Yet what conclusions can stand, if it be allowable to assail them in this wise? And what security have we for the stability of the fabric of human knowledge, if the sacred temple is to be breached from batteries erected upon nothing? The Atheists, therefore, cannot be permitted to allege gratuitous suppositions, alike improbable and inconceivable, and thus invalidate results regularly derived from premises which are undeniable. They must conform with greater strictness to the rules of that philosophy which they profess to hold in such respect, and on which they place such exclusive and implicit reliance. (l)

But it is not certain that if the three assumptions which I have enumerated were granted, my second argument would be thereby eluded. To escape this, something further is required—the atoms must be not only unlimited in number, but infinite in power. For if the particle *A* be chemically united to the particle *B*, the former must have for the latter a definite force of attraction, great or small. But stronger affinities alone can overcome those which are weaker, *A* consequently will not reject *B* to unite with *C*, except it have for *C* a greater affinity than for *B*. By parity of reasoning, *C* will give place to *D* only upon the same principle of superior force, and so on to the end of the alphabet. But a power which can act with an energy perpetually augmenting through an infinite series, must be itself infinite. *A* then must have a chemical attraction which is infinite,

(l) See note at the end.

and that is absurd. Yet if this power be finite, and be placed in circumstances to exert itself without ceasing, sooner or later, it must be neutralized. This is not yet done, however; there has not, hitherto, been *time* enough for that effect to be brought about. But in eternity, *time* must have perfected whatever time can accomplish. There was, of course, a period at which chemical laws did not act, and consequently did not exist, they have necessarily, therefore, originated in *time*. If, however, such were their origin, matter also, as we have seen, has had its beginning. But it was proved at the very outset, that matter could create neither itself nor its laws—the one and the other therefore have had a Creator. Unless, consequently, there be in my logic some flaw which I am unable to detect, so far from *both* the positions, on which every *reasoning* Atheist must rely, being impregnable, neither can be maintained. My argument then is closed—my task completed. There is a God, who, for reasons which seemed unto him good, has called into existence, and stamped with His Laws* all that we behold, and more than we can imagine, AS WAS TO BE DEMONSTRATED.

Having thus disposed of Physical Causes, we come now to those termed Final.

The application of that phrase to causes has always appeared to me unfortunate, since when thus combined, its meaning cannot be understood without the aid of a definition. It refers to the uses or ends for which something is made or done. Thus, to adopt Adam Smith's illustration, the final cause of the movements of the hands of a watch,

* These laws, to avoid irreverence, are usually denominated the laws of matter, or, more generally, those of nature.

is to show us the hours of the day, while the efficient cause of those movements is the elasticity of the springs of the machine. (*m*) In Natural Theology, it has reference to what are supposed to be the designs of the Divine Architect in the construction and arrangement of the Solar System, and more particularly in the organization of the animals and plants living upon the earth. The subject has been recently elucidated much at large, and in some respects very ably, in the well-known Bridgewater Treatises. But with regard to the immediate object which we have in view, I must say, that in my estimation, these elaborate performances are a failure. He who will not admit design, and therefore infer a designer, from observing the structure and adaptation to his service of his own hands and eyes, his other organs and other limbs, may be safely pronounced beyond the reach of any amount of evidence of that description.

But be that as it may, for our purpose arguments deduced from final causes are of no avail. Since no one can imagine that tribes of savages, stupid and ignorant as they are frequently found to be, would ever engage in speculations so refined, and so remote from the affairs of ordinary life, as are reasonings about uses and ends. In a philosophical age indeed, considerations of this kind become objects of attention as a matter of course, and to the Theist they are highly curious and interesting. (*n*) But upon the Atheist I fear they will have little effect, because in my humble judgement the whole doctrine is entitled to nothing like the weight usually ascribed to it. That *a* designer may be deduced from what we observe in the mechanism of animals and plants I allow. But bearing in mind the well-known rule of logic, that conclusions can never have greater strength or breadth, than the premises from which

(*m*), (*n*), See notes at the end.

they are derived, I submit to any person of reflection, how poor, how inadequate are the impressions which the contemplation of animal or vegetable structure can impart, of that Awful Being, the very idea of "whose might, majesty, and dominion," subdues the reason, and dazzles to blindness the imagination. When sufficiently recovered from these overpowering conceptions to exert his ordinary faculties, nothing can exceed the littleness, the insignificance of man—of every thing which appertains to him, and of every thing by which he is surrounded. Nay, when entirely collected, he will perceive that he is environed on every side by imperfection. (*o*) The universe, we have seen tends if not to annihilation, yet to a species of death in the close of all chemical action, nay of mechanical motion also, if some recent speculations, be well bounded, which would prove a resisting medium diffused throughout space. But as for us *we* manifestly, and every other form that lives, have appointed periods of birth, growth, maturity, decline, and dissolution. (*p*) It is in vain for the Theist to urge that this is a part of the plan of the Great Designer. "True, most true," the Atheist replies, "but that only shifts the imperfection from the execution to the scheme, and you are not authorized to predicate omnipotence and omniscience in the one case, more than in the other."

On the whole, then, I conclude that the idea of a Supreme Being, cannot be traced in every people among whom it is found, to tradition. I conclude further, that reason alone, however confirmatory of that idea when once developed, can never originate it from the contemplation of either physical or final causes. It follows, consequently, we must seek elsewhere for its source, and that source can be no other than the workmanship of our own minds. These, when properly constituted, and improved

to a certain, and very moderate point, develop the deep conviction that there is a God ; (q) that he is Supreme, and that we are his dependent creatures. Theism then is of that class of inherent feelings termed instincts, and is usually denominated the sentiment of religion.* Distinct from reason, though as we have seen, fortified by that faculty when sufficiently cultivated and enlarged, it forms the characteristic of our race. I know of no other attribute of man, in which the lower animals do not to a greater or less degree participate. But in religious emotions he stands alone and pre-eminent. I have always, therefore, thought that an individual who labours under the grievous misfortune of being an Atheist, having lost the divine image to which by inheritance he is entitled, so far from being reviled and upbraided, should be pitied, soothed, and, if possible, restored to the "high estate" from which he has fallen. Then would he recover his lost birth-right, and re-join the universal human family in acknowledging his Creator, and in paying homage to that Dread Power, in whom he and we, and all, "live and move, and have our being."

* The radical independence which exists between this sentiment, the Moral Sense, and the discursive faculty being established, as these elements commingle in every conceivable proportion in different individuals, we are at no loss to understand anomalies which we so often see, and have occasion to lament. The first may be exalted, the second obtunded or vitiated, the third perverted. Or contrariwise, the last may be sound, the second sensitive and correct, but the first torpid. In a perfect character, each would exert its proper influence, while a just and controlling judgment reigned paramount over all.

(q) See note at the end.

FINIS.

NOTES.

(a) An animal may be defined *physically* an organized substance, having a distinct receptacle for food—that is, some cavity which answers the purposes of a stomach. *Metaphysically*, an animal is a being which has an idea of itself, as contradistinguished from all other things or existences in nature. But here a difficulty arises. A polypus may be divided into two, and each portion acquiring a new stomach, is thence forward a new animal. But two may, it is said, be blended into one. Now, in that case, what becomes of their previously distinct personal identity? Perhaps, as in a bicephalus terrapin exhibited some years ago, there are two minds to one body.

(b) In animalcules, these, or whatever other senses they may possess must, when compared with ours, be immeasurably accute, since to our dull organs, unless aided by powerful magnifiers, their food, their foes, nay, themselves, are imperceptible. Those pests, too, which prey upon us, show a preference for some individuals, and an aversion to others. The predilection of mosquitoes for strangers is well known; and fleas have also their favourites. Thus, I know a gentleman who declares the former never molest him, and if by any accident one of the latter makes a lodgment about his person, the only annoyance he suffers, results from the rambles over his body, of the animal in his efforts to escape, which he never fails to do on the first opportunity.

(c) Nothing, in my opinion, proves so conclusively the deplorable want of sound learning in the medical students, generally speaking, of our country, as the spread among the profession of the notions of Mons. Broussais. I am confident that if one thousand lads of good understanding, were taken and carried regularly through the higher branches of philosophy, not half a dozen would be disturbed by his metaphysics, and not even one would pause ere he rejected his medical doctrines, so palpably are they at variance with facts, for which we have all the testimony our senses can afford.

Luckily a reformation as regards moral, and which it is earnestly hoped will extend to medical science, has commenced in Paris under Royer Collard. Coussin, too, has ranged himself under the banner of truth, but he has borrowed from the school of Kant and his disciples. How far this may be an improvement, I cannot say, German metaphysics having always foiled my efforts to understand them. But, at any rate, a spice of mysticism is preferable to the chilling errors of the followers of Cabanis.

This note refers to page 10, line 9, the reference being omitted by mistake.

In this appeal to common sense, and denunciation of metaphysical reasoning, the Materialists are joined by a large class of persons of very opposite sentiments, and it is amusing enough to observe how the common sense of one of these parties conflicts with the common sense of the other. The one it teaches they have a mind, the other it informs there is no such existence. The former it instructs in all they wish to know, or believe to be *knowable*, touching the operations of that mind, while the latter are given to understand there are no operations of the kind. It follows, of course, they both agree that to investigate mental phenomena is an idle waste of time and thought. And it follows further, that when the common sense of the one set comes into actual collision with the common sense of the other, neither being furnished with facts or arguments, the battle has to be waged by an interchange of round assertions and hard words. After a few broad-sides of this cheap and harmless ammunition, they separate, each convinced that his own common sense is very wise, and that of his opponent very foolish.

In addition to the above anomalies, I think I have noticed some other curious particulars connected with this vaunted power. In the first place it seems to have little skill in physical, while it luxuriates in moral science. Thus, I have never heard of the man whose common sense taught him that the earth moved round the sun. Whereas I have seen many who derived from this faculty all requisite information, not only in relation to their own minds, but on such simple subjects as political economy in general, and the circulating medium in particular.

Secondly, I have observed that those who think they abound in this quality use the term, as applied to themselves, ironically. It is their *uncommon* sense which enables them without an effort, to see so much, and so clearly, where those ordinary men Plato and Aristotle, Berkeley and Hume, and Adam Smith, to say nothing of living writers, Mr. Gallatin among others, have left *some things* to be explained.

May I be permitted to hint to these exceedingly sharp-sighted gentlemen, it is not always sufficient that we ourselves discern true results. For if these are in any degree recondite, we never can be absolutely cer-

tain they are true, and therefore to be implicitly relied upon, unless they flow by regular deduction from indisputable premises.

Moreover, on many occasions, the truth is of little importance, unless we can enable others to see it as well as ourselves. Now, to do this arrangement, facts, arguments, illustrations, and precise phraseology are necessary, and these I believe common sense does not furnish.

Lastly, I apprehend that though men of common sense may know *all*, that is true, yet they are at the same time apt to know a good deal more. It is frequently as necessary to *unlearn* as to learn; study, therefore, I am inclined to think, would improve even them negatively, if not positively. Let them try the experiment diligently for some years, and if they are not thereby rendered wiser one way or the other, I for one will admit, that they are indeed very *uncommon* persons.

This note likewise belongs to page 10, line 13, also omitted.

Suppose a person were to go to an astronomer and say, "Sir, I understand you assert that the major axis of the earth's orbit is invariable in its length. Now, I do not believe one word of that statement." "No!" the man of science would reply, "then I will prove it to you." If to this it were rejoined, "Do so, but recollect you are not to employ for that purpose the differential, or any similar calculus, since to nothing of the kind will I listen. As far as the Arabic numerals will go, I am at your service, but beyond them I will hear nothing, and admit nothing." What, I say, would be thought of the wisdom of such a procedure? Yet, why the only guide to knowledge is to be accepted in one case, and rejected in another, I never have been able to understand. For *all* refined reasonings, if correct, are to common sense, what the calculations of astronomers are to the four rules of arithmetic—they are always in unison so far as they go, but they cannot proceed equally far.

(d) Excessive simplification is alike fatal in metaphysics and medicine. In both, any very comprehensive hypothesis may, from the very circumstance of its extreme generalization, be at once pronounced false.

The brilliant discoveries in astronomy have, I am persuaded, had an ill effect on other branches of knowledge. The grandest of the physical sciences stands doubtless alone in the singleness of its principle. In the others, an augmentation in the number of their elements may not, as in chemistry, keep pace with their improvement, but perfect them as we may, the amount of their ultimate facts can never be small.

(e) It is lamentable to see the numerous and grave errors into which theorists fall, who undertake to speculate upon subjects of the deepest in-

terest to human happiness, from disregarding the two requisites stated in the text. What is remarkable, such errors never, perhaps, occur, at least so glaringly, among physical inquirers, where the evils arising from such blunders would be comparatively nothing. Thus, whether Berzelius should omit some element in the analysis of a mineral, or Sir John Herschell should mistake a subsequent result for an anterior cause, might not be material. But in moral reasoning, it is absolutely fatal to overlook facts, as Miss Martineau and others have done, in relation to the matrimonial compact, and thus deduce a conclusion, which if acted on, would uproot the very foundations of society. Or like Mr. Hume and his followers, to annihilate virtue by transposing, and thus ingeniously transforming subsequent considerations into antecedent and ruling motives. Or, after the manner of some Southern gentlemen of note and talent, who, *by omitting much more than half the facts*, have contrived to prove that slavery is beneficial to a *new* country, which is found to improve more rapidly from compulsory than from free labour. Of course in estimating the progress or condition of a recently planted people, the only items to be computed are the number of trees which have been felled and yards of ditch which have been dug—the state of society as regards its improvement, religious, moral, and intellectual, its habits of feeling and thinking, and its modes of acting, being counted for nothing!

From what we daily see and hear it is evident that, as regards the world, any thing will pass for philosophy, or even fact, provided *mind* be the subject. In that case be the assertion ever so gross, the reasoning ever so absurd, or the conclusion ever so monstrous, the author need not apprehend the want of disciples, nor fear detection, if to prevent the one, or accomplish the other, his readers have to turn their eyes inward. Since to do that would be to study metaphysics; and who, in this money-loving age and country, would forfeit his pretensions to common sense?

(f) I am disposed to think that every impression made upon our senses, induces a belief more or less vivid, and more or less momentary, or continued in the reality of the impressing cause. On the other hand, a preconceived notion predisposes our organs to convey impressions corresponding with those notions. Hence, a firm conviction that spectres are sometimes visible, inclines the eye under appropriate circumstances, to see what it otherwise could not discern.

Where the mind is sound, reason readily corrects the false intelligence which may be received from without, except the impression be exceedingly intense, or both novel and strong. In the former case, it has more than once proved ineffaceable, producing mania, of course. As in the case which Garrick used to act of the Grandfather, who playing with his grand-child out of an upper window, the infant sprang from his arms, and was dashed to pieces. For ever after the miserable old man con-

ceived the horrid scene to be passing before his eyes. In the latter, the remedy is to repeat the impression at proper intervals, until the judgment can master it. Thus, when a sailor-boy first goes aloft, that his vision may not delude him with the idea of danger, he is directed to look *up*, until habit can give him confidence in his security.

(g) A great moral truth at its first annunciation, almost infallibly encounters the opposition and reproaches of mankind. Nor can this be otherwise, since it is nearly certain to condemn some of their cherished indulgencies.

In former days the promulgators of just, though obnoxious doctrines, paid the penalty of their lives, for endeavouring the reformation of their fellow mortals. But thanks to modern improvement, hard names are the only resource of those whose logical ability is not upon a par with the ardour of their zeal. But only let a person cry out "Great is Diana of the Ephesians," and he and his doctrine are, for the time at least, lauded to the skies.

I have often thought there is something hard in the lot of philosophers. A few indeed, like the mighty Stagyrte, Newton, and Adam Smith, are immortalized. But ordinarily, the fate of a man of genius is this. He makes and proclaims a discovery. In proportion to its importance, is the victory against him and his doctrines. Gradually, however, the latter, if sound, wins its way. As it finds favour with the public, its author is disregarded, until finally at the same moment that his views are adopted and become common property, he is himself forgotten. How many political writers and speakers in this country, daily pour forth sentiments, not improved in the transmission, for which they are ultimately indebted to Locke and Trenchard—men of whose names they never heard! Hence, nothing is more natural than for people to ask in all sincerity, of what use are philosophers? For mankind at large, as Mr. Stewart beautifully expresses it "having in their minds no *point of departure*," are not aware of the progress they make, nor of course, of their indebtedness to the real authors of that progress. If at all soured indeed, people are apt to imagine the world has retrograded in their day. And even where the temperament is more happy, or fortune has proved more propitious, where they are alive to the immense advances which have been made, are making, and, as I believe, will continue to be made in knowledge, in virtue, and in happiness, they are apt to be content with their state of fruition, without a very strict inquiry into the causes of their felicity. He, therefore, who wishes to add his mite to the mass of general improvement and happiness, must, like Mr. Malthus, keep his temper, and practice patience, secure of the applause of the few, and regardless of the neglect of the many. And thus will he secure the great, and almost the only reward

he can expect—the gratifying reflection that he too has been a benefactor to his race.

(h) Those of my readers; who prefer, direct experiment to reasoning, will probably be satisfied with the following authorities.

Sir Isaac Newton having placed the smooth, convex surface of a hemisphere of glass, very accurately ground, upon a polished plate of the same substance, observed the ring of light which was formed at the point where the one rested upon the other. He then placed weight after weight upon the flat portion of the hemisphere, and noted the change wrought as more pressure was applied, upon the light at the point indicated. The result of his calculations was, that a force equal to two thousand pounds to the square inch, all that the materials would bear, approximated the two pieces of glass to the eighty thousandth part of an inch.

Professor Robison of Edinburgh, from whom I quote, from memory, however, not having been able to find a copy of his Lectures in the city, repeated the experiment with the same result. But Dr. Brewster has shown that when ordinary light will detect no intervening space between two surfaces, the fact of their being even then occasionally separated, may be exhibited by polarized light. It is now, indeed, so universally admitted, that neither bodies nor particles of bodies touch each other, that Natural Philosophers and Chemists, when they wish to be particularly exact, always speak of *apparent* contact. And it is, I understand, the opinion of the best thinkers in physical science, that in the most compact bodies the spaces between the particles, exceed in an immense ratio the particles themselves. The Metaphysicians, however, avoiding excess in refinement, and what might be suspected as paradox in assertion, are content in their reasonings with the gross, demonstrated, and admitted fact, that there can be no contact as regards bodies—particles they leave to the ingenuity of the mechanical and chemical philosophers.

(i) We are so accustomed to suppose there is a necessary connection between our perceiving bodies and their existence, that it sounds very oddly when we are first told we may see, hear, nay feel, as we imagine, when in truth there is nothing to be seen, heard, or felt. The mystery is at once cleared up by what is stated in the text, in relation to the irregular action of the nervous system; and to these must be added the disordered movements of the mind itself. The whole doctrine of visions, spectres, ghosts, &c. is thus at once explained, without impeaching the veracity of those who aver they have seen unearthly things. Take the following as an example.

A legal gentleman of eminence in London was ill with a pleuritic affection. When convalescent he saw one evening in his easy-chair, the figure of a female to whom he had been fondly attached, and who had been dead for some years. Her countenance was directed towards him and smiling. The patient being convinced it was an illusion, tried various experiments, and after a time it disappeared. As it happened, he suffered a relapse, and the figure again returned, but now looked frowningly.

Had the mind of this individual been feeble, his temperament enthusiastic, or his character one of timidity, the effect of such a vision may be well imagined.

Brutus, as the classical reader will recollect, *heard*, as well as saw, the spectre which appeared to him. And there is one case on record where the nerves of touch were also imposed upon, the person *feeling*, hearing, and seeing an imaginary *blue* dog. An occurrence like this, however, is rare, but the instances of optical deception are innumerable.

(*j*) I would not by any means have it supposed that I consider this most ingenious writer and amiable man, as an Atheist in fact. In what manner his sceptical doctrines may have struck others, I do not know, but the most prominent of them have always appeared to me like logical jugglery—the author neither thoroughly convinced himself, nor expecting to convince others. Their effect accordingly upon my mind has uniformly been to produce a sort of ludicrous wonderment, as remote as possible from conviction. From this circumstance, and from the dress and style in which Mr. H. has clothed his thoughts, confining their perusal to persons somewhat curious in their tastes, and of cultivated understandings, his writings have, I am persuaded, done far less mischief than is generally supposed. How ill they are calculated to please even a strong, but uncultivated intellect, the following anecdote will prove.

The celebrated Patrick Henry having enjoyed none of the advantages of early education, and in after life wishing to improve himself, applied to Mr. Jefferson for the loan of some books. Mr. J. put into his hands Hume's Essays. After a few days Mr. Henry returned the work, begging it might be exchanged for another, "as he could not get on with it at all."

Gibbon, in my opinion, has done, and will do more injury to the cause of Christianity than the entire host of literary men combined.

With regard to that portion of Mr. Hume's doctrine which is our immediate concern, the fatal, though amusing inconsistency, was charged upon him of framing arguments, and writing books for the edification

and conversion of readers, when his reasoning, if sound, demonstrated there could be no readers for the latter to instruct, or the former to convert.

I, however, have always thought it most remarkable, that so very acute a dialectician as Mr. Hume, should have participated in the error of the Materialists, formerly pointed out, and have supposed it possible to disprove the existence of the mind by one of its own functions.

Had Des Cartes varied his celebrated *dictum* he might, it is probable, have saved many from error. Instead of saying, "I think, therefore, I am," a more precise, and consequently a better expression would have been, "my mind thinks, therefore, my mind is."

(k) Should the arguments stated in the text be admitted, they overthrow two speculations, which have been put forth in the interesting science of Geology. The first is quoted by Mr. Dugald Sewart, who does not appear to have been aware of its fallacy, from, I suspect, Dr. Hutton. The idea suggested is, that a succession of changes, from chemical action of course, is to take place upon this earth "through the endless flux of time." But according to the doctrine for which I contend, there is a limit to the number of these changes; and the occurrence of one consequently diminishes, to that extent, the possible amount. They must, therefore, sooner or later come to an end.

The second hypothesis, which is incompatible with my reasoning, has been brought forward by Mr. Lyell. That accomplished and indefatigable Geologist, supposes that the causes, of necessity chemical, now modifying the surface of our globe, continue to act with all the intensity of former days. But this it appears to me cannot be so. Because in addition to what I have stated in the text, stronger affinities will, *ceteris paribus* take precedence of the weaker in point of time. Consequently the most violent combinations will occur first, and then the less violent in the order of their strength, until all visible action ceases. Now the only method of eluding this argument is to show that in the progress of time, circumstances arise which compensate the operation of the foregoing principle, and maintain uniformity in the intensity of chemical action. And this I conceive to be not only impossible, but the reverse of the fact. For every new union, so far from *predisposing*, *indisposes* a particle to enter into new associations. Thus, sodium is more ready to combine than soda; soda than the carbonate, of that substance; the carbonate than the sulphate, &c. until the metalloid will enter into no further combination at all. *A priori* reasoning therefore, seems to me to confirm the theory of Mr. De La Beche, and, I believe, the majority of Geologists, that the powers now affecting Geological changes are less energetic than they formerly were.

If my observation may be considered as dust in the balance between such authorities, it coincides with the latter, and corroborates my argument.

The result of the whole is, that sooner or later a state of repose must occur, never to be disturbed through the endless lapse of time, without the intervention of that Power whose fiat first called matter into existence, and then subjected it, for the time being, which for our system cannot, I should infer, be more than a few millions of years, to such rules as to His good pleasure seemed fit.

(*l*) But if the objections to the mode of reasoning, which the Atheists will be compelled hereafter to adopt, were less insuperable than they are, yet *they* could not use it without destroying themselves. For its employment would immediately deprive them of the only plea possessing a shadow of plausibility, which they have hitherto been able to urge against the Theists—their admission of a Power uncreated, boundless, and eternal, while for themselves they say, they will acknowledge nothing which reason does not sanction, and reason cannot sanction what reason cannot fathom. But these deluded votaries of reason will be henceforth driven from their negatives, and will have to contend for something which had no beginning, will have no end, incessant in its action, and possessed, in one respect at least, of infinite power. Can they now taunt the Theists with going beyond their reason?

I do not profess to be deeply read in Atheistical writers, and the foregoing assertion as to their solitary plea, is founded upon the following circumstance.

When a student of medicine in Paris, I became acquainted with a gentleman who has employed more time, money, and personal exertion, with a view to the benefit of his fellow mortals, than any individual whom I have personally known. He possessed the unfortunate opinions which I am controverting, and we had frequent discussions on the subject. His argument was in substance what I have stated, and was thus expressed: That Christians are to be sure blockheads enough for professing to walk by faith, but that of all fools in the world the Deists are the greatest. For that they who acknowledge reason for their guide, hold opinions which confessedly reason cannot, strictly speaking, comprehend.

I maintained my cause to the best of my ability, but being young, and less conversant with dialectics then, than I have since been, I could not do it justice. Otherwise I could have shown that reason can demonstrate a fact, which reason cannot conceive. The argument is equally short and conclusive. Either there are bounds to space or there are not. But boundless space is clearly beyond the ken of our faculties, and bounds to space are equally so, since in the latter case the question would instantly arise, What is beyond the supposed bounds?

In sober truth, however, so feeble in capacity is the human mind, so circumscribed are its operations, that a genuine philosopher has to admit his ignorance a million of times, for once, that he can boast of his knowledge.

(m) Efficient and final causes are not, in fact, more broadly distinguished in physical, than they are in moral inquiries. Yet it is by confounding those causes that sceptics, from Mr. Hume downwards, and misanthropes of every age, who have denied the reality of human virtue, have endeavoured to sustain their lamentable error. Take benevolence as an example, and the question can be settled without the aid of logic or philosophy, by every one who will consult his own bosom, and answer the following questions. Breathes there a sane, human being, who, on seeing a child fall into the water, and there struggle for its life, would not feel an emotion to relieve that child for its own sake? If so, what is the nature of that emotion?

My queries, it is to be observed, are propounded upon the supposition, *that the spectator performs no act*, so that there shall be no blending of subsequent considerations arising from having done our duty, with, antecedent, and moving states of the mind.

(n) Every inquirer into the wonders of creation, has, I presume, his peculiar taste, but to me the application of the doctrine of final causes to moral phenomena, has always been far more agreeable than to physical arrangements. For our faculties are so humble that there must be about the latter a coarseness, and a clumsiness, if words of such apparent irreverence may be used, to bring them down to the level of our capacities. From these derogatory associations the first are exempt. Thus the mechanism by which the bones are connected, and the blood propelled, is sufficiently obvious, while the brain, from its infinitely more delicate and curious structure, is to our dull perceptions very nearly a *terra incognita*.

But the gratification is great, and frequently unmingled, when in contemplating human conduct, we observe how each toiling pismire, heedless of others, and bent upon the attainment of his own little ends, but verifies the words of the poet—

“ Each seeks a separate goal,
But Heaven’s is one, and that the whole.”

Whoever wishes to see this on a large scale may consult the *Wealth of Nations*, and they will be there taught the manner in which the vanity and selfishness of the nobility, broke the chains of the feudal system, and thus conferred upon the world the liberty which we now enjoy, and its

consequences, knowledge, wealth, virtue, and happiness. These have increased, are increasing, and, in my hope and belief, will continue to increase so long as it shall please the beneficence of the Supreme Ruler to continue the present order of his creation.

(o) Those who think they can reconcile physical imperfection and moral evil, however slight or transitory, with the attributes of the Deity, must extricate themselves as they can from the following argument. It was, I believe, framed before the days of Epictetus, and if I mistake not, may be found in his works.

Either God has the power to prevent evil, and not the will, or he has the will and not the power, or neither, or both. But the first supposition impeaches his benevolence, the second his omnipotence, and the third, the one and the other. He is, however, both omnipotent and benevolent; there is, consequently, say the stoics, no such thing as evil, and what is thus designated are mere accidents, beneath the attention of a wise man. Happy is he whose experience confirms this logic!

Archbishop King quotes the foregoing reasoning, and vainly inclines to the *intractability* of matter, as some of the older philosophers termed it, as a mode of escape. Paley, too, has examined the question, but not with his usual ability, nor what is much more remarkable, with his usual candour. The following is his syllogism:—

“Either God wished the happiness of men,
or He wished their misery,
or He was indifferent and unconcerned about both.”

He then goes on to say, that God has not wished our misery, nor is he indifferent, and therefore he wishes us to be happy.

Now here it is manifest that the fourth and true predicate has been omitted. For our Creator has wished us to experience some enjoyment on the one hand, and to suffer some misery on the other. The former, I think, predominates, but that there is no small amount of the latter, the bosoms of us all can painfully testify.

Evil, says Paley, no doubt exists, but it is never the object of “contrivance.” Whence comes it then? Through accident, or, as he seems unwillingly to admit, from inability? But in philosophy there is no such thing as accident, nor, as we have seen, can inability be predicated of an Omnipotent Being. But, moreover, Paley is mistaken in his fact. Evil is sometimes designed. The talons and beak of the hawk, however ne-

cessary to himself, are contrived to inflict pain upon the dove. And even in us, no one can doubt that our teeth were as much intended to ache upon occasion, as to chew in ordinary. For they are furnished with nerves, which answer no other purpose that I know of, except to give pain, since these may be destroyed without impeding mastication. At any rate, every one must see that our teeth might have been rendered as insensible as our nails.

If, then, it be asked, how I extricate myself from the difficulty, I reply, I do not extricate myself at all, since there is sufficient evidence to compel a belief in the Omnipotence and Benevolence of the Creator on the one hand, while on the other, painful experience and observation daily prove the existence of evil. The facts I cannot reconcile, and where I "cant unravel," I "learn to trust."

By the way, it is a singular circumstance Geology should prove, that animals preyed upon each other as they do now, before the creation of man.

I have heard it suggested in argument, that the imperfection of man is no impeachment of the Omnipotence of the Creator, because it is not derogatory to suppose him incapable of creating a perfect being—that is, one equal to himself.

The reply to this is, I fear, equally brief and decisive. If there be a doubt whether the Deity could have created us perfect, there is no manner of question, if he had thought fit so to do, he could have formed us far more perfect than we are.

(*p*) The necessary physical cause of death appears to depend upon the following circumstances. First, all living substances, whether animal or vegetable, are composed of solids and fluids. Secondly, the latter must circulate through former, or existence ceases. Thirdly, the resistance which the parts that are stationary oppose to those which are in motion, augments from the instant, a separate vitality is established. Fourthly, the motor power also increases for a certain period, in a higher ratio than the opposition which it has to overcome. But lastly, this power acquires its maximum, and then declines, so that sooner or later a counterpoise must take place, and with it death. This sequence of changes requires, of course, very different portions of time in the several classes of animals, and the various tribes of vegetables. Thus the whale is supposed to live about a thousand years, while some ephemeral insects do not exceed a few hours. Among vegetables the disparity is still greater. The *Adansonia Digitata*, or Boabab, will endure for upwards of four thousand years,

while some of the more fugitive fungi "spring in a night, and wither in a day."

(*q*) This impression, of course, the most sublime that can enter into the imagination of man, although solitary in degree, is not insulated in kind. We have other instincts equally original, and more direct in their bearing on civilized society, in so much, indeed, that political institutions cannot exist where they are disregarded. Of these, it is sufficient for my purpose, to mention our sense of justice and the feeling of love. The former teaches us to respect what belongs to others; the latter, distinct from the desire for offspring, and so opposed to mere animal passion, with which gross writers confound it, that the contrast forms the basis of nearly the entire mass of novels, predisposes the virtuous minded of either sex, to form unions which shall terminate only with life. The laws, therefore, which enforce the rights of property, and which render the matrimonial compact indissoluble at the will of the parties, are not as some superficial thinkers have supposed, the arbitrary enactments of ignorant and interested legislators. That these enactments should be productive of occasional evil, amounts to no more than this—man is their subject. But the sources of these ordinances lie deep in the recesses of the human heart, where, shrouded from the gaze of the ignorant, and the consciousness of the cold and the sensual, play the secret springs of human conduct, and human institutions. To the streams which flow from these fountains, when they are themselves uncontaminated, for the purity and warmth of the moral affections are of far more importance in such inquiries, than acuteness of intellect, the lawgiver merely, perhaps unwittingly, gives force. Perceiving that certain observances are indispensable to the existence of those forms of polity, which it is his object to perpetuate, he frames his statutes accordingly. But in so doing, he in effect says, "I but carry out the intentions of your Creator. If you, for whom I legislate, will obey the guides which he has implanted in your bosoms to keep you in the paths of rectitude, my regulations will be null, because did they not exist, you would nevertheless comply with what I now enjoin. If, however, your monitor be silent or your inclinations vicious, if in defiance of your Maker's laws, you will steal, rob, or commit adultery, then shall you meet at my hands with that punishment which you have merited."

In all this, of course, there is nothing new, but old truths must be sometimes re-stated; and, moreover, I could add to Mr. Hume's admirable remarks on the philosophy of matrimony, physiological arguments, both new, and of great weight, but this is not the place.

This note should have been placed at the foot of page 28. It refers to the word "habitat," in the eighth line of that page.

The special seat of the mind, if there be one, has never been ascertained. The upper portion of the brain (*cerebrum*,) and, perhaps, its anterior

lobes, may be more particularly devoted to the operations of the intellect. But accident and experiment have established the fact, that two small bodies (*corpora olivaria*,) more regularly and beautifully oval, though in other respects resembling plump grains of wheat, form the domicile of the vital principle. These little eminences, of such importance in the animal economy, and as white as snow, are situated anteriorly and just within the head, where it is united to the neck.

THE END.

POSTSCRIPT.

THE favourable prospects announced for the College of Physicians and Surgeons in this city, at the delivery of the foregoing Lecture, are in progress of fulfilment. Already do its numbers exceed those of last year, and they are constantly augmenting. When, then, we consider the enlarged and improved means of instruction which this Institution now affords, the commodiousness of the building, perhaps unequalled, certainly unsurpassed in the Union, and the unbounded facilities of the Anatomical Department, we may confidently anticipate for it a long and successful course of prosperity and usefulness.

December 1st, 1837.

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